

REMARKS

The claims have been amended and revised to better define the invention and to establish a clearer distinction between the invention process of making the fuel or chemical from a biomass hydrolyzate and the processes set forth in the referred-to-references of Pereo et al and Solbach et al during preparation of the International Search Report, International Preliminary Examination Report and the Written Opinion.

In essence, the invention process of making a fuel or chemical from a biomass hydrolyzate utilizes specific adsorption selectivity metal oxides to affect adsorption selectivity of guaiacyl or syringyl functional groups or both to form an adsorption complex and thereby leave a dissolved sugar fraction which is converted into a fuel or chemical by fermentation using a microorganism.

The invention has been unexpectedly accomplished by:

- (a) providing a biomass hydrolyzate;
- (b) Adjusting pH of said biomass hydrolyzate within a range of 6 - 10;
- (c) contacting a metal oxide selected from the group consisting of titanium dioxide, vanadium oxide, and zirconium oxide having an affinity for guaiacyl or syringyl functional groups or both with said biomass hydrolyzate for a time sufficient to form an adsorption complex and a dissolved sugar fraction;
- (d) removing the adsorption complex; and
- (e) converting the dissolved sugar fraction into a fuel or chemical using a microorganism.

The Perego et al reference utilizes fly ash and activated soft charcoal as adsorbents to detoxify wood hydrolyzates – therefore, the reference is not particularly relevant to prevent the claims as recited in amended form non-novel. Also, as amended, the claims now recite an inventive step over Perego et al.

The Solbach et al reference also is not a document of particular relevance to preclude novelty in applicant's process as presently recited in amended form. Neither does the Solback et al reference preclude an inventive step when taken alone in regard to the claims as revised since Solback et al only purifies lignin derivatives that are not biodegradable by contacting same with the porous γ – alumina.

It is respectfully requested that the foregoing be taken into consideration prior to taking this application up for examination on the merits.

Respectfully submitted,



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